

Nonresidential Equipment Metal Halide Fixtures – Pulse Start

Description: High Efficiency Metal Halide Fixtures – Pulse Start
Baseline: Standard High Density Discharge Lighting
Useful Life: 15 Years *

Savings Algorithm *:

$$\text{Annual kwh} = \left(\frac{\text{WATT}(\text{base}) - \text{WATT}(\text{eff})}{1000} \right) \times \text{HOURS}$$

$$\text{Peak kW} = \text{Annual kWh} \times \frac{1}{8760} \div \text{LF}$$

WATT(base): Wattage of baseline fixture based on 480 watts
WATT(eff): Wattage of efficient fixture (from application ... range = 100 to 400)
HOURS: Annual fixture operating hours (from application ... range = ~~100~~ **1,000** to 8,760 hours)
LF: 0.7609 load factor (based on Small Commercial Baseload load shape)

Incremental Cost Algorithm *:

Incremental Cost = \$111.48

Incentives:

All Installations: \$30 per fixture
Incentive Cap: N/A
Financing: none

Simple Payback:

Payback Pre-Incentive: 5.11 yrs
Payback Post-Incentive: 3.74 yrs
Incentive/Cost Ratio: 27%

Comments:

* Baseline, useful life, savings, and incremental costs are taken from or calculated from the 2014-2023 Iowa Statewide Assessment of Energy Efficiency Potential.

Nonresidential Equipment T-5 High Bay Fluorescent Lighting

Description: Standard Lighting
 Baseline: High Bay Fluorescent High Output Lighting
 Useful Life: 15 Years *

Savings Algorithm *:

$$\text{Annual kwh} = \left(\frac{\text{WATT}(\text{base}) - \text{WATT}(\text{eff})}{1000} \right) \times \text{HOURS}$$

$$\text{Peak kW} = \text{Annual kWh} \times \frac{1}{8760} \div \text{LF}$$

WATT(base): See table below
 WATT(eff): See table below
 HOURS: Annual fixture operating hours (from application ... range = ~~100~~ **1,000** to 8,760 hours)
 LF: 0.7609 load factor (based on Small Commercial Baseload load shape)

Length of Lamp (ft)	Number of Lamps	WATT(base)	WATT(eff)
4	3	295	179
4	4	458	234
4	5	458	296
4	6	458	351
4	7	850	410
4	8	850	468

Incremental Cost Algorithm *:

Full cost of the fixture.

Incentives:

All Installations: \$11.50 per lamp
 Incentive Cap: N/A
 Financing: none

Simple Payback:

Payback Pre-Incentive: 6.14 yrs
 Payback Post-Incentive: 3.78 yrs
 Incentive/Cost Ratio: 39%

Comments:

* Baseline and useful life are taken from the 2014-2023 Iowa Statewide Assessment of Energy Efficiency Potential.

Nonresidential Equipment T-8 Fluorescent Lighting

Description: Standard Lighting
 Baseline: Fluorescent Reduced Wattage Lighting
 Useful Life: 13 Years *

Savings Algorithm *:

$$\text{Annual kwh} = \left(\frac{\text{WATT}(\text{base}) - \text{WATT}(\text{eff})}{1000} \right) \times \text{HOURS}$$

$$\text{Peak kW} = \text{Annual kWh} \times \frac{1}{8760} \div \text{LF}$$

WATT(base): See table below (averages of various manufacturers laboratory tests ... ANSI)
 WATT(eff): See table below (averages of various manufacturers laboratory tests ... ANSI)
 HOURS: Annual fixture operating hours (from application ... range = ~~100~~ **1,000** to 8,760 hours)
 LF: 0.7609 load factor (based on Small Commercial Baseload load shape)

Length of Lamp (ft)	Number of Lamps	WATT(base)	WATT(eff)
2	1	28	20
2	2	56	33
4	1	43	31
4	2	72	59
4	3	115	89
4	4	120	93
8	1	75	58
8	2	160	109

Incremental Cost Algorithm *:

Full cost of the fixture.

Incentives:

All Installations: \$8.50 per lamp
 Incentive Cap: N/A
 Financing: none

Simple Payback:

Payback Pre-Incentive: 8.33 yrs
 Payback Post-Incentive: 3.07 yrs
 Incentive/Cost Ratio: 63%

Comments:

* Baseline and useful life are taken from the 2014-2023 Iowa Statewide Assessment of Energy Efficiency Potential.

Nonresidential Equipment T-8 High Bay Fluorescent Lighting

Description: Standard Lighting
 Baseline: High Bay Fluorescent High Output Lighting
 Useful Life: 15 Years *

Savings Algorithm *:

$$\text{Annual kwh} = \left(\frac{\text{WATT}(\text{base}) - \text{WATT}(\text{eff})}{1000} \right) \times \text{HOURS}$$

$$\text{Peak kW} = \text{Annual kWh} \times \frac{1}{8760} \div \text{LF}$$

WATT(base): See table below
 WATT(eff): See table below
 HOURS: Annual fixture operating hours (from application ... range = ~~100~~ **1,000** to 8,760 hours)
 LF: 0.7609 load factor (based on Small Commercial Baseload load shape)

Length of Lamp (ft)	Number of Lamps	WATT(base)	WATT(eff)
4	3	295	112
4	4	458	151
4	5	458	189
4	6	458	226
4	7	850	264
4	8	850	301

Incremental Cost Algorithm *:

Full cost of the fixture.

Incentives:

All Installations: \$11.50 per lamp
 Incentive Cap: N/A
 Financing: none

Simple Payback:

Payback Pre-Incentive: 3.01 yrs
 Payback Post-Incentive: 1.85 yrs
 Incentive/Cost Ratio: 39%

Comments:

* Baseline and useful life are taken from or calculated from the 2014-2023 Iowa Statewide Assessment of Energy Efficiency Potential.